

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 4, as follows:

C¹ | Technical field of the invention Field

Please amend the paragraph beginning at page 1, line 12, as follows:

C² | Background of the Invention

Please amend the paragraph beginning at page 2, line 19, as follows:

C³ | Prior art, like for instance the European patent application PE 0 981 242 A1, discloses a shared multi-drop ADSL modem allowing for simultaneous connections to at least two local loops. ~~By means of the disclosed invention, two~~ Two subscribing users may share one single ADSL modem, whereby lower costs associated with the implementation of ADSL modems can be achieved.

Please amend the paragraph beginning at page 2, line 25, as follows:

C⁴ | However, the prior art does not disclose a satisfactory solution to the problem of installing and activating connections for a great number of subscribers wanting access to the Internet at high transmission rates, so-called broadband, in a short period of time. Moreover, to use only a minimum of staff at convenient working hours is an absolute prerequisite not only for enabling commercial success when mass-connecting and activating the subscribing customers. Perhaps the most serious drawback associated with prior art is that mass-connection of customers having accepted an agreement of provision of high speed Internet access will take time and hence be a serious bottleneck when a

huge number of subscribers simultaneously are about to get connected and activated and most subscribers do not accept having to wait.

Please amend the paragraphs beginning at page 3, line 9, through line 21, as follows:

One object of the present invention is to ~~is to~~ alleviate the previously mentioned problems associated with prior art technology. This object is achieved by means of an apparatus and a method in a telecommunication system for providing access to telecommunication services to subscribers at user terminals, each of which being separately connected to at least one access point via ~~high-speed net terminal~~ including xDSL compatible modems, and a communication network,

the at least one access point ~~comprising high-speed~~ comprises xDSL compatible modems with filters, required, characterized in that

~~the access point modems are arranged in two groups, a pool of the first group including a plurality of high-speed xDSL compatible modems with access via filters; the second group including a plurality of xDSL compatible, and multiple high-speed modems with direct access; and~~

the net terminal is provided with a second modem for initial installation of the connection, which is monitored and controlled by a control means until connection is established.

characterized in that

C6 | a the control means is adapted to control the modems and the filters when at least one connection during a transfer of connections between the user terminals-terminal and the at least one access point is transferred from being accessing-accessed via the pool-first group of pooled xDSL compatible of modems with associated filters, to being accessed another access point of directly via the second group of xDSL compatible accessible modems, whereby a new pre-provisional broadband access points are point is made available.

Please amend the paragraph beginning at page 3, line 23, as follows:

C6 | One advantage of the apparatus and method according to the invention is a plug-and-play possibility for the customer himself to access xDSL with high transmission at broadband rates. By means of the invention, the currently connected subscribing customer has immediate access to the Internet and is instantly able to use its customer services provided over a broadband access technology.

Please amend the paragraph beginning at page 4, line 12, as follows:

C7 | Brief description Description of the drawings Drawings

Please amend the paragraph beginning on page 5, line 7, as follows:

C8 | Copper wires, such as twisted wire pairs between a telephone exchange and different users of telecommunication services have more a lot more information capacity that the capacity currently used for voice services. Telephones and connected copper wires together with telephone exchanges from the usual telephone network, which is

referred to as the PSTN (public stationary telephone network). The PSTN has been build-up during several decades and constitutes an already existing and widely distributed communication network. However, as mentioned above, it can be utilised more effectively than almost exclusively for transmission of voice traffic, which is the current situation. Today many users are connected to the Internet via PSTN by a modem connection, but the transmission rates are not very high and therefore constitute a limiting factor. Several base band and pass band transmission systems, collectively referred to as xDSL, have been developed over the past decade that enable up to several megabits per second, which is several orders of magnitude higher transmission than today's PSTN modem connections. This much higher transmission is also carried over telephone twisted pair loops within the PSTN, i.e. over the already in-place copper cables, which network in most cases is owned by telephony providing companies. The PSTN covers the access to the telecommunication system of for most of the potential ~~high transmission~~ subscribers of broadband access to data transmission services all over the world. The twisted pair cables made from copper are used for the connection of different end users with a central office.

Please amend the paragraph beginning on page 6, lines 17, as follows:

Fig 1 schematically illustrates a first embodiment of the apparatus improving the telecommunication system. In Fig. 1 two user terminals 10, 20 are illustrated, each of which is separately connected to a net terminal 12, 22. The net terminal 12, 22 operates as a gateway between the user terminal 10, 20 and the xDSL enhanced telephone network

9
C begins at the wall socket and continues outside of the building of the user terminals 10, 20 with copper cables and telephone exchanges. The net terminal 12, 22, including at least one PSTN modem 16, 26 and an xDSL modem 18, 28, provides the user terminal 10, 20 and its subscribing user with access to xDSL services. From the net terminal ~~10, 20~~ 12, 22 a copper pair cable 14, 24 leads to a main distribution frame 30, which is divided into two devices, i.e. the line side device 32 and the station side device 34. The two devices of the main distribution frame 30 are preferably integrated and connection between the line side device 32 and the station side device 34 is done by means of so-called jumpers 33. In prior art, these jumpers 33 usually must be manually re-connected in a plurality of combinations depending on in which manner customers of a provider of communication services, a so-called operator, are willing to subscribe to the operator's various customer services.

Please amend the paragraph beginning on page 7, line 4, as follows:

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C In order for an xDSL modem to function, a filter must be provided. According to the present invention, a filter arrangement 36 is arranged in the station side device ~~32~~ 34 of the main distribution frame 30 containing one filter per expected or potential user terminal 10, 20 to connect to the PSTN via a provided xDSL customer service. Hereby no so-called re-jumpering, i.e. disconnection and then re-connection of a jumper, is required since each potential user in theory is provided with the xDSL service in advance, even though the service must not have been fully realized by final activation of the connection. One example is that the subscriber has not yet received his own net terminal

C10 12, 22. Installation of a filter arrangement 36 is easy and does not require technically trained staff, since user tables or other more or less complicated registers of already connected jumpers[,] and jumpers to be connected or disconnected to a particular connector[,] is no longer necessary. In addition to that advantage, the time of installation can be significantly reduced.

Please amend the paragraph beginning on page 8, line 2, as follows:

C11 The net term ~~10, 20~~ 12, 22 also includes an in-band modem, like for instance a standard V.90 modem. By means of this standard modem, an initial connection is established with a broadband access control server 70. The initial connection is established with the broadband access control server 70 via the station side 34 of the main distribution frame 30 and a central office 60. The central office 60 has an arrangement of line cards 65 including several state of the art access possibilities and transmission techniques, such as for instance PSTN and ISDN. The connection from the central office 60 to the broadband access control server 70 is via the Internet, whereby an communicative internet protocol is used, such as the well-known protocol TCP/IP. When the broadband access control server 70 has been connected, it transfers information required for initializing xDSL by means of the modem pool 50 to the metallic cross connection 40.

Please amend the paragraph beginning on page 8, line 15, as follows:

C12 A further possibility is that the broadband access control server 70 also retrieves user information in the form of a plurality of user specific parameters, in order to get the

C12
net terminal ~~40, 20~~ 12, 22 and the specific modem of the xDSL modem pool 50 to operate in a way expected by the customer. In one embodiment, the broadband access control server 70 is supported by a management system 80 for providing the metallic cross connection 40 and the modem pool ~~40~~ 50 with user specific instructions, whereby the functionality can be adapted to requirements of each specific user of the xDSL connected user terminal 10, 20. In case of applying a management system 80, it communicates with either of, or with both of the metallic cross connection 40 and the xDSL modem pool 50 via the Internet. However, in another embodiment according to the invention, the tasks of the management system 80 are performed by the broadband access control server 70.

Please amend the paragraph beginning on page 10, line 15, as follows:

C13
Fig 4 is a flow chart illustrating the procedure how of subscribers can be connected 5 to a ~~high speed~~ broadband transmission connection established by means of the present invention. The sequence starts (S10) with an identification (S20) made either manually or by means of a computerised search database of a group of people who eventually may be interested in a high speed Internet access possibility. In the next step, these people, for example a whole neighbourhood, are connected (S30) to the modem pool 50 according to the previous sections and referring to either of Fig 1, 2 and 3. The modem pool 50 is monitored (S40) by the broadband access control server 70, and as long as no new access possibilities are required, the sequence continues with further connections (S30). If room for new accesses is required, patch corded subscribers are transferred (S50) to direct modems 55. As long as the modem pool is not empty, the

sequence continues with monitoring (S40) of broadband access control server 70, but if the modem pool 50 is available, i.e. customers are no longer connected, the modem pool 50 can be removed (S70) by operator staff to another location: This is the end (S80) of one of several conceivable embodiments illustrating various operative sequences.
